UNIT 22 EXERCISES 6-10

QUADRATICS

2002B 6. Suppose that a and b are nonzero real numbers, and that the equation $x^2 + ax + b = 0$ has solutions a and b. Then the pair (a, b) is

(A) $(-2, 1)$ **(B)** $(-1, 2)$ **(C)** $(1, -2)$ **(D)** $(2, -1)$ **(E)** $(4, 4)$

2014A 6. The difference between a two-digit number and the number obtained by reversing its digits is 5 times the sum of the digits of either number. What is the sum of the two-digit number and its reverse?

(A) 44 **(B)** 55 **(C)** 77 **(D)** 99 **(E)** 110

2005A

9. There are two values of a for which the equation $4x^2 + ax + 8x + 9 = 0$ has only one solution for x. What is the sum of those values of a?

(A) -16 **(B)** -8 **(C)** 0 **(D)** 8 **(E)** 20

2009A

9. Suppose that $f(x+3) = 3x^2 + 7x + 4$ and $f(x) = ax^2 + bx + c$. What is $a+b+c$?

(A) -1 **(B)** 0 **(C)** 1 **(D)** 2 **(E)** 3

2007B

9. A function f has the property that $f(3x-1) = x^2 + x + 1$ for all real numbers x. What is $f(5)$?

(A) 7 **(B)** 13 **(C)** 31 **(D)** 111 **(E)** 211

2012B

10. What is the area of the polygon whose vertices are the points of intersection of the curves $x^2 + y^2 = 25$ and $(x-4)^2 + 9y^2 = 81$?

(A) 24 **(B)** 27 **(C)** 36 **(D)** 37.5 **(E)** 42